

CLEAN VERSION OF THE AMENDED CLAIMS

~~1. Safety device (19) for limiting of current and voltage of an electrical consumer (15) connected downstream to the safety device (19) with at least one input connector (8) and one output connector (16) as well as input connector and output connector (10, 17) of a common line (12) wherein the safety device (19) includes at least voltage and current limiting device (7,13, 14) and comprising at least one protective device (F 1) as a fusible fuse, a voltage limiter device (D3) referenced to the common line (12), a current limiter device (R6) connected to the output of the voltage limiter device (D3) as well as a protective circuit (20), which protective circuit (20) is disposed upstream the voltage and current limiting device (7,13, 14), wherein the protective circuit (20) exhibits a field effect transistor (Q1) as a switching and regulating transistor, wherein the source drain leg (S-D) of the field effect transistor (Q1) is disposed between the input connector (8) and the voltage and current limiting device (7,13, 14) and wherein the gate (G) is connected to the common line (12) through a resistor (R4) for feeding in the control voltage of the field effect transistor (Q 1), wherein a second transistor (Q2) is connected to the input connector (8) and to the gate (G) of the switching and regulating transistor (Q 1), wherein the collector (Q23) is connected to the gate (G) of the switching and regulating transistor (Q 1) for influencing the control voltage of the switching and regulating transistor (Q 1), and wherein [the] a voltage (U9,11) is fed back to the base (Q22) of the second transistor (Q2) over a feedback resistor (R3) from the output (9,11) of the protective circuit (20), wherein a voltage~~

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HA sensor circuit (D1,RS) is disposed between the base (Q22) of the second transistor (Q2) and the common line (12) for voltage detection,

3. (amended) Safety device (19) according to claim 1 or 2 characterized in that the voltage sensor circuit (D1,R5) comprises a first diode (D1) and a resistor (R5) connected in series.

HA 4. (amended) Safety device (19) according to claim 1 characterized in that the feedback current is adjusted by way of the feedback resistor (R3) such that in case of over load there results a regulating down of the load current to a minimum value and a switching off of the current in the voltage and current limiting device (7,13, 14) is performed only upon application of a voltage (U8-10) larger than the input nominal voltage (UEN) and wherein an automatic switching on again is given upon following lowering of the supply voltage (UE) to the input nominal voltage WEN).

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C8* 5. (amended) Safety device (19) according to claim 1 characterized in that a resistor (R2) is disposed between the base (Q22) of the transistor (Q2) and the source (S) of the switching and regulating transistor (Q 1) in the further protective circuit (20) for reducing the feedback current.

6. (amended) Safety device (19) according to claim 1 or 2, characterized in that a feedback voltage (U9-11;UA) of the feedback resistor (R3) is tappable both immediately after the drain (D) of the switching and regulating transistor (Q 1) as well as at any arbitrary circuit point of the

current path between line points (9, 16) and that the feedback voltage (U9-11;UA) of the feedback resistor (R3) is fed back to the base (Q22) of the second transistor (Q2).

7. (amended) Safety device (19) according to claim 1 or 2 characterized in that a second Zener diode (D2) is disposed between the gate (G) and the source (S) of the switching and regulating transistor (Q 1) parallel to the gate (G) and to the source (S) of the switching and regulating transistor (Q 1) for protecting the gate source leg (G-S).

8. (amended) Safety device (19) according to claim 1 or 2 characterized in that a fourth Zener diode (D4) is connected in series with the resistor (R4) for reducing the gate control voltage of the switching and regulating transistor (Q 1).

9. (amended) Safety device (19) according to claim 7 characterized in that the second Zener diode [D2] (D2) and a fourth Zener diode (D4) are integral components of the switching and regulating transistor (Q1).

10. (amended) Safety device (19) according to claim 1 characterized in that the feedback resistor (R3) is replaced by a control circuit for adjusting the feedback current independent of the output voltage and of the supply voltage.

11. (amended) Safety device (19) according to claim 10 characterized in that the control circuit is a constant current circuit.

12. (amended) Safety device (19) according to claim 1 or 2 characterized in that the safety device (19) includes a reset device, for example a key, for switching on again in the protective circuit (20) after triggering of the switching off of the current in the voltage and current limiting device (7,13, 14).

13. (amended) Safety device (19) according to claim 1 characterized in that the second transistor (Q2) is a field effect transistor.

14. (amended) Safety device (19) according to claim 1 characterized in that a bipolar transistor are employed instead of the field effect transistor.
